Vicksburg

National Park Service
U.S. Department of the Interior

Vicksburg National Military Park

Natural Resources – Backdrop to the Battlefield

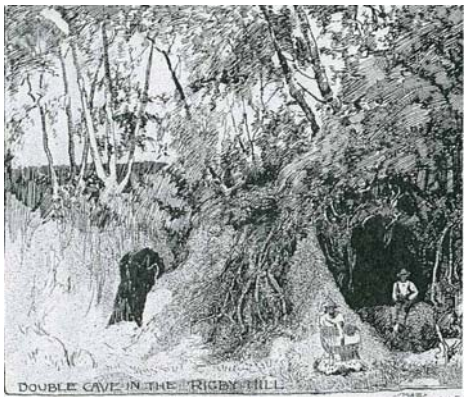
Vicksburg National Military Park encompasses an area of 1,800 acres, including over 20 miles of reconstructed trenches, approaches, and parallels that comprise the siege and defense lines surrounding the city. In addition to the largest collection of outdoor sculpture in the southeastern United States, the park also preserves historic fortifications, bridges, buildings, cannon and carriages, the ironclad, *USS Cairo*, and Vicksburg National Cemetery. Established as a lasting memorial to commemorate the bravery and ultimate sacrifice of those who struggled for the "Hill City," the park has also become a place of natural beauty, its peaceful surroundings providing habitat for many species of plants and animals.

Wind, Dust, and Water

An area originally created by the action of wind and water, Vicksburg's uniqueness can be attributed to the unusual *loess* soil, composing the city's hills and bluffs, and the highly unstable channel of the Mississippi River. Loess is a low-clay, low-sand soil with the consistency of compacted dust – exactly what it is – theorized to be the result of swirling storms in prehistoric days which deposited the glacially-pulverized silt, or 'rockflour,' on the eastern side of the Mississippi River.

This area was one of the few places where the mighty river touched the valley wall, providing prime territory for early settlement, as a city could be located on the river, yet at the same time be kept from flooding year after year. Vicksburg became a bustling river town, providing an essential stopping and trans-shipping site for traffic on the Mississippi. Additionally, west-seeking railroads took advantage of the location to facilitate easy transfer from rail to ship, or vice versa, to transport goods across the river.

Natural Defenses



The high loess bluffs became the core of the city's defenses, providing such a natural advantage that in 1863 General Grant could not conquer the city by direct assaults, despite the fact the Confederate forces were greatly outnumbered. Trenches and saps (zigzag trenches) surrounding the city were easily dug, and as the soil was capable of sustaining steep cuts, the hills became havens during the siege, with caves excavated to protect civilians and soldiers alike from the relentless bombardment of Union artillery.

A drawback, however, was the fact that, though capable of sustaining 90-degree angle cuts as high as 100 feet, once loess was disturbed by plowing, digging, etc., it became highly erodible by water, forming deep gullies. Time and modern earth-moving equipment have leveled a large portion of the area's hills and ravines, but much of the natural terrain remains, and is visible on the tour through Vicksburg National Military Park.

Untamed Wilderness

Through the ages, the Mississippi River has cut off many meander loops, forming oxbow lakes characteristic of floodplains. Each lake would be surrounded by a natural levee, formed while the river flowed in the loop. Because of constant major changes in the river's course, long sections of channel were abandoned, forming bayous - simply modern streams following the ancient river course. These too, were mostly bordered by natural levees. All of these course changes and abandonments created a complex network of interconnecting waterways, many navigable for small steamboats during the 1860s, especially during periods of high water. And because the ancient courses crossed and re-crossed each other, the regions between rivers and bayous eventually formed closed basins called backswamps, each walled by natural levees on all sides. Though some backswamps drained during late summer and winter, many did not, becoming filled with dense stands of huge bald cypress and tupelo trees, and creating habitat for alligators, water snakes, countless aquatic birds, and numerous fish. Those backswamps that did drain were covered with tall forests of willow, tupelo, and oak, and inhabited by white-tailed deer, black bears, cougars, opossums, raccoons, and many other birds and animals. An untamed wilderness then, many of these species still inhabit the park's landscape today.

"No place on earth is favored by nature with natural defenses as Vicksburg…"

As the natural levees were not all of the same height, nearly every year some backswamps were inundated during the river's spring flood. However, most years the water did not rise high enough to completely overtop the levees everywhere, providing prime cropland as a result. European settlers cut down the tall hardwood forest, clearing any area that was capable of allowing a man with a mule and plow to walk without falling into a ravine. By the time of the Civil War, the natural levees had mostly been cleared for farming, the major crop being cotton, but also planted with grain, fruits, and vegetables needed to sustain those on the plantations and farms. And, from June 1862 on, most available timber was used to construct fortifications along the eight-mile Confederate defense line around Vicksburg. Parapets were constructed of logs and reinforced with sandbags and gabions (cylindrical cane baskets open at both ends), while tightly-bound bundles of brushwood, called fascines, were used as reinforcement, foundation, and crowning material for fixing the slope and solidifying the gabions. Native cane, still seen throughout the park, was woven into 'sap rollers,' or large baskets, which were filled with dirt and rolled in front of the soldiers digging the saps. Trees were felled and their branch tips sharpened into spikes (*abatis*), or shaped into horizontal beams pierced by two diagonal rows of sharpened lances up to 10 feet long (*chevaux-de-frise*). Soldiers took advantage of the natural entanglements of catbrier and scrub thickets in the ravines and gullies, and placed obstacles before their parapets consisting of strong vines or wires stretched between tree stumps or small pickets, so as to trip the leading ranks of attacking Federal troops. This was the landscape in 1863, and excluding growth in steep ravines, only scattered trees dotted the battlefield.

A Land Reclaimed by Nature

Bayous were the highways of this watery world, with the few roads that existed being both discontinuous and primitive while following the natural levees. By 1863, the river and many of the bayous were also lined with artificial levees, privately constructed by local plantation owners to keep their lands free of flood waters, if possible. These levees often failed, leaving waters to roar through the breach and inundate the lands beyond. These 'fast floods' were feared, as it was all too easy for people and animals to be trapped by the rapidly rising waters. Another devastating impact on the landscape was the erosion of the cultivated ridgetops. After approximately 75 years, a substantial portion of the hilltop farmland had been lost and most farms in the area were abandoned between 1900 and 1920. The sides of the ridges were scarred with fresh gullies and major ravines, filling with silt that stayed wet and boggy – conditions quickly exploited by native cane. These ravine bottoms grew into immense canebrakes, creating almost impenetrable thickets, while slopes between the bottoms and open fields at the top were covered with tangled scrub - conditions still present in the park's current landscape.

Erosion Control

Today, the loess hills of Vicksburg look nothing as they did in 1863. Erosion control projects were instituted in the 1930s, one major accomplishment being the planting of a now-dense forest for the sole purpose of controlling water runoff and combating erosion of the loess. Park personnel now realize this effort was only partially successful. Tree roots can hold soil, but exposed roots only serve to channel water from runoff.

As older trees fell over from disease and wind damage, exposed root systems created new passages for water runoff. A secondary effect of this effort, however, was the establishment of forest habitat for many different species of birds, mammals, reptiles, amphibians, and plants (both native and non-native), a condition that now must be seriously considered in the development of any future management plans.

Management Tools

Environmental technologies now enable us to maintain soil stability without trees, using grasses which are resilient and quick-growing. Projects are proposed to rehabilitate specific areas of the park, restoring the historic scene, exposing key terrain features, and providing access to long-hidden monuments. The challenge, however, is finding efficient ways to preserve and protect the park at a time of lean operating budgets and less staff, while maintaining the delicate balance existing between the historical, cultural, and natural resources of the park. Management tools such as prescribed burning, wetlands rehabilitation, species inventories, archeological surveys, exotic plant management, vista rehabilitation, and re-introduction of native species are some of the methods considered in the park's management plan to preserve its natural and cultural resources.

Preserving the Nation's Heritage

Maintaining the delicate balance existing between historical, cultural, and natural resources of Vicksburg National Military Park – or any National Park - is an ongoing challenge in the effort to provide the most rewarding experience for the park visitor. More than ever before, U.S. National Parks are being discovered and rediscovered by both national and international travelers, but as the number of visitors to these areas increases, so does the stress on the natural and cultural resources of each area. These lands cannot thrive without the support and care of the public, and only with this commitment will the character of these significant areas remain intact, leaving the visitors' experience of the nation's heritage undiminished.